

Evaluation of analgesic and anti-inflammatory effects of hydroalcoholic extract of Lavandula angostifolia in male rats (Research Paper)

Mohammad.Khajenouri,^{1,*} Masoud Fereidoni,²

- 1.
2. Neuroscience

Introduction: Evaluation of analgesic and anti-inflammatory effects of hydroalcoholic extract of Lavandula angostifolia in male rats

Methods: Hydroalcoholic extract of lavender stems and leaves was extracted by soaking method and saline was used as a solvent. This extract was prepared in doses of 100, 200 and 400 mg / kg and was injected intraperitoneally to rats weighing approximately 200-400 g. The mentioned groups along with the control group and the solvent group were subjected to heat test (tail-flick) and inflammation caused by formalin soles.

Results: The hydroalcoholic extract of lavender reduced the inflammation caused by formalin soles, which was significant in all doses, but was more effective at 400 and 200 mg / kg than the control and solvent groups ($P < 0.001$). The extract also caused pain in the thermal pain test (tail-flick) at doses of 200 mg / kg and 100 ($P < 0.001$) and also significantly reduced pain at a dose of 400 mg / kg ($P < 0.001$).

Conclusion: According to lavender studies, this plant contains a large amount of vitamin C and other antioxidants that probably reduce ROS, increase the level of antioxidant enzymes such as superoxide dismutase, glutathione peroxidase and catalase and can inhibit the synthesis of Nitric oxide. Lavender contains a large amount of substance called Linalool which is considered as an antagonist of NMDA receptors and may reduce neuropathic pain induction by inhibiting the activity of these channels.

Keywords: Thermal pain, Chemical pain, Edema, Lavender, Hydroalcoholic extract